

(No Model.)

H. COCKELL.

KILN FOR DRYING BRICKS, &c.

No. 274,910.

Patented Apr. 3, 1883.

Fig. 1.

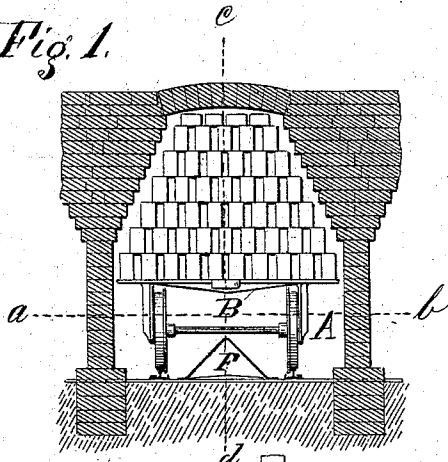


Fig. 4.

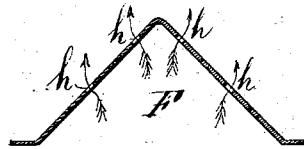


Fig. 2.

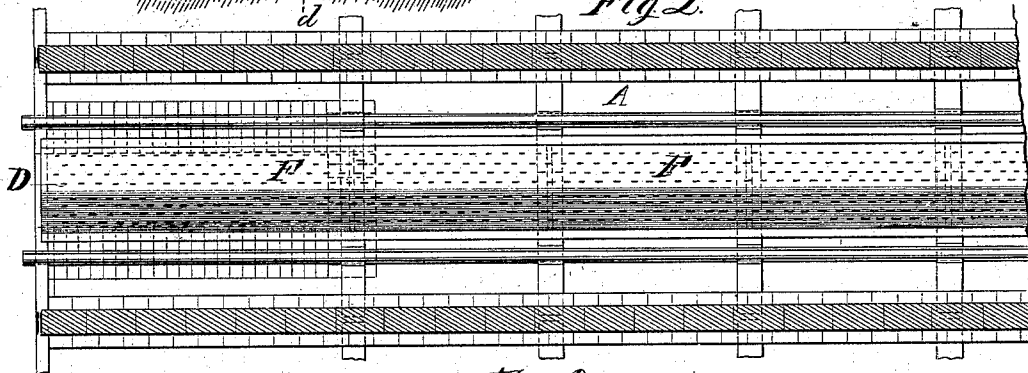
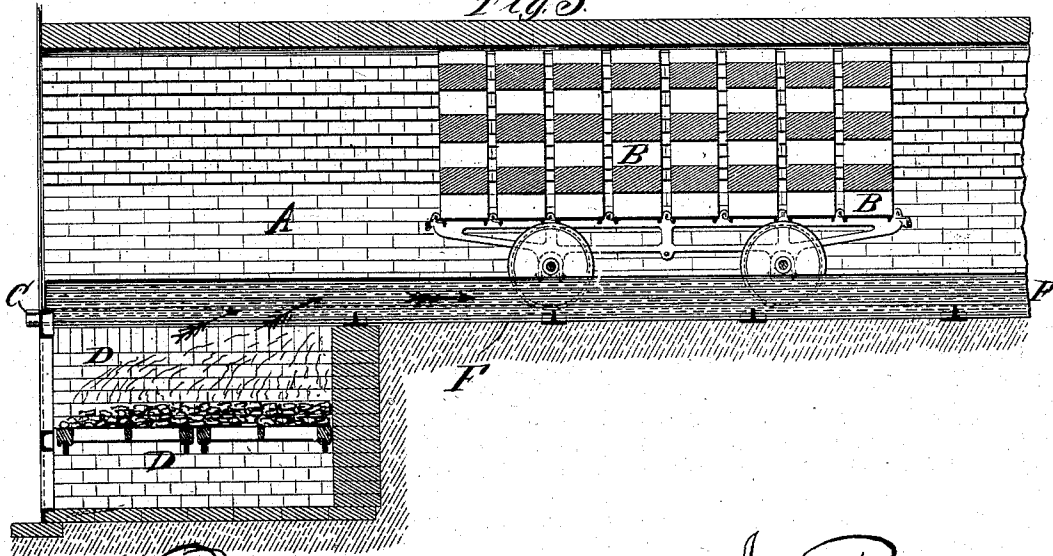


Fig. 3.



Witnesses:
John Burkhardt.
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UNITED STATES PATENT OFFICE.

HARVEY COCKELL, OF CHICAGO, ILLINOIS, ASSIGNOR TO CYRUS CHAMBERS JR., OF PHILADELPHIA, PENNSYLVANIA.

KILN FOR DRYING BRICK, &c.

SPECIFICATION forming part of Letters Patent No. 274,910, dated April 8, 1883.

Application filed November 21, 1882. (No model.)

To all whom it may concern:

Be it known that I, HARVEY COCKELL, residing at the city of Chicago, in the county of Cook and State of Illinois, and a citizen of the United States, have invented certain new and useful Improvements in Kilns for Drying Bricks and other Articles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, of which—

Figure 1 is a transverse vertical section of a drying flue or kiln provided with my improvement. Fig. 2 is a horizontal sectional view on the line *a b*, Fig. 1. Fig. 3 is a vertical longitudinal section on the line *c d*, Fig. 1. Fig. 4 is a cross-section, enlarged, of the air distributing or diffusing flue.

This invention consists in the combination, with the main flue of a usual kiln for the artificial drying of raw bricks or other moist articles, of an auxiliary flue, whereby the heated air from the furnace is caused to be diffused along the length of the main flue and directed up through the bricks, &c., to be dried, as hereinafter described.

The usual construction of the brick-drying kilns which my device is designed to improve consists of a large flue or kiln, A, built of bricks, with a furnace, D, at one end and a smoke-stack at the other, together with sliding iron doors for opening and closing the entrance and exit of the kiln, and provided with a track, C, on which run the iron trucks B, which carry the hacked bricks to be dried. The laden trucks are pushed in at the stack end, and, when the bricks are sufficiently dried, out at the furnace end. The defect in such kilns arises from the tendency of the heated air to ascend directly from and near the furnace to the roof and upper part of the kiln, and to pass off into the stack without having done its full duty—that is to say, without having taken up all the moisture from the bricks which it is capable of absorbing—and thus, while the upper tiers of the bricks become rapidly dried, the lower tiers dry slowly and at the loss of time and at excessive cost of fuel.

I remedy this obvious and serious defect by introducing an air-diffusing flue, F, having numerous perforations, *h*, which flue is located at the bottom of the main flue, and preferably be-

tween the tracks C, directly beneath the middle of the trucks, and extending from over the furnace D the whole length, or nearly so, of the main flue, as shown. I prefer to make this auxiliary flue of sheet-iron, bent into the angular form shown in the drawings, its side edges resting upon the floor or upon the sleepers of the track. The body of heated air rising from the furnace D, instead of being entirely free to escape, as heretofore, to the upper part of the kiln, is diffused by the auxiliary flue F along the entire length of the kiln, passing up through the perforations *h*, as indicated by the arrows in Fig. 4, and, coming into contact first with the lower tiers of bricks, ascends through the superposed tiers, and finally passes off through the stack charged with moisture. By this means the drying of the bricks is more rapidly, evenly, and economically effected than has been heretofore possible without my improvement.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In an apparatus for drying bricks, &c., the combination, with a single main flue, of a central perforated diffusing-flue extending from over and above the furnace the length of the main flue, or nearly so, all constructed, combined, and operating substantially as and for the purpose specified.

2. In combination with the main flue, having a furnace at one end thereof and tracks adapted for receiving the wheels of trucks thereon, a single perforated diffusing-flue, located centrally between the tracks and extending continuously from over and above the furnace the length of the main flue, or nearly so, substantially as and for the purpose set forth.

3. The combination, with the main flue and furnace of a drying-kiln, of a centrally-placed perforated diffusing-flue extending from over and above the furnace, the said diffusing-flue being arched and extending from and above the bottom of the main flue, substantially as described.

In testimony whereof I have hereunto affixed my signature this 8th day of November, A. D. 1882.

HARVEY COCKELL.

Witnesses:

W. S. JOHNSON,
ALBERT MOTSCHMAN.